

WHAT IS CLAIMED IS:

1. A method for at least one of monitoring the performance of existing power generating assets and making a management recommendation on a selection of a power generating facility out of various available power generating facilities, using a network-based system including a server system coupled to a centralized database and at least one client system, said method comprising the steps of:

identifying assumptions to evaluate power generating facilities;

receiving a power generating facility information; and

computing performance metrics of the power generating facility based on received information and the identified assumptions to select a power generating facility out of various available power generating facilities.

2. A method according to Claim 1 wherein said step of receiving power generating facility information further comprises the step of submitting information for multiple units.

3. A method according to Claim 2 wherein said step of submitting information for multiple units further comprises the step of inputting at least one of a unit gross capacity, a number of hours that the unit has operated since the Commercial Operation (CO) date, a number of hours that the unit will be available for operation, and an anticipated load that the unit will be dispatched.

4. A method according to Claim 2 wherein said step of submitting information for multiple units further comprises the step of inputting at least one of a Unit Gross Output, a House Load, Existing Operational Hours, a Percentage of Available Hours Dispatched, and a Dispatched Load.

5. A method according to Claim 2 wherein said step of submitting information for multiple units further comprises the step of inputting at least one of a Fuels Information, a Cycle, Feed Water Temperature, and a Stack Temperature.

6. A method according to Claim 2 wherein said step of submitting information for multiple units further comprises the step of inputting Facility Equipment Information by selecting at least one of a Flyash Control Equipment, a So2

Control Equipment, a Mercury Control Equipment, and a NOx Control Equipment to reflect the actual condition of the facility that is being evaluated.

7. A method according to Claim 6 wherein said step of inputting Facility Equipment Information further comprises the step of retrieving at least one of an initial capital cost, a maintenance cost, labor cost, cost of consumables and internal power consumption cost information from the centralized database.

8. A method according to Claim 2 wherein said step of submitting information for multiple units further comprises the steps of:

selecting a fuel type out of at least one of a coal and natural gas;

inputting coal pricing information by inputting an actual cost of at least one of a fuel type selected; and

inputting transportation costs associated with the fuel selected.

9. A method according to Claim 1 wherein said step of computing performance metrics further comprises the step of computing operational parameters at various load conditions.

10. A method according to Claim 9 wherein said step of computing operational parameters at various load conditions further comprises the step of computing at least one of fuel consumption, Heat Losses, Gross Heat Rate per Hour, Net Heat Rate per Hour, Heat Losses, Efficiency of the Unit, Gross Heat Fired in million BTU per hour, Super Heater Flow, Re-Heater Flow, Heat Input, Equivalent Output, Reheat To Superheat Ratio, and other performance metrics at various load conditions.

11. A method according to Claim 1 wherein said step of computing performance metrics further comprises the step of predicting fuel and consumable consumption.

12. A method according to Claim 1 wherein said step of computing performance metrics further comprises the step of verifying the actual performance of the units at a specific load condition.

13. A method according to Claim 1 wherein said step of computing performance metrics further comprises the step of calculating the approximate dimensions of the boilers' furnace for operational considerations.

14. A method for determining a value for one or more power generating facilities, said method comprising the steps of:

selecting via a user interface, power generating capabilities of power plants;

selecting via the user interface, a cost to operate the power plants;

generating a prediction of periods of time when one or more of the power plants are not generating power; and

generating a prediction of revenues produced by the power plants.

15. A method according to Claim 14 wherein said step of selecting a cost to operate the power plants further comprises the step of selecting a zip code where the power plants are located.

16. A method according to Claim 15 wherein said step of selecting a zip code further comprises the step of selecting a consumer price index for the zip code.

17. A method according to Claim 15 wherein said step of selecting a zip code further comprises the step of determining a cost of labor to operate the power plants.

18. A method according to Claim 14 wherein said step of selecting power generating capabilities of the power plants comprises the step of selecting from the user interface an age for each of the facilities.

19. A method according to Claim 14 wherein said step of selecting power generating capabilities of the power plants comprises the step of selecting from the user interface a fuel used by each of the facilities.

20. A method according to Claim 14 further comprising the step of selecting, from the user interface, control equipment for each of the power plants.

21. A method according to Claim 14 wherein said step of selecting a cost to operate the power plants comprises the steps of:

selecting via the user interface a price of fuel for each for each of the facilities; and

selecting via the user interface at least one of F.O.B. or freight for the selected fuel price.

22. A method according to Claim 14 wherein said step of generating a prediction of periods of time further comprises the step of generating a prediction of major and minor power generation outages.

23. A method according to Claim 22 wherein major and minor power production outages are predicting using historical plant maintenance data.

24. A method according to Claim 23 wherein the historical data includes a history of cold, warm and hot power plant startups.

25. A method according to Claim 22 further comprising the step of generating a major maintenance summary.

26. A method according to Claim 14 wherein said step of selecting a cost to operate the power plants comprises the step of entering rentals, leases, planned spare parts and other consumables.

27. A method according to Claim 14 wherein said step of generating a prediction of revenues comprises the step of determining a number of energy offset costs consumed by the power plants.

28. A computer program embodied on a computer readable medium for managing evaluation and selection of a power plant out of various acquisition candidates, comprising a code segment that receives power generating facility information and then:

maintains a database by adding, deleting and updating facility information;

generates management reports based on the received facility information; and

provides flexibility to an administrator to modify user profile information.

29. The computer program as recited in Claim 28 further includes a code segment that provides online help to the user by downloading a user manual on to a client device.

30. The computer program as recited in Claim 28 further includes a code segment that receives at least one of a unit gross capacity, number of hours that the unit has operated since the Commercial Operation (CO) date, the number of hours that the unit will be available for operation, and the anticipated load that the unit will be dispatched.

31. The computer program as recited in Claim 30 further includes:

a code segment that receives at least one of a Unit Gross Output, a House Load, Existing Operational Hours, Percentage of Available Hours Dispatched, a Dispatched Load, Fuels Information, a Cycle, Feed Water Temperature, and Stack Temperature; and

a code segment that receives Facility Equipment Information by selecting at least one of a Flyash Control Equipment, a So₂ Control Equipment, a Mercury Control Equipment, and a NO_x Control Equipment to reflect the actual condition of the facility that is being evaluated.

32. The computer program as recited in Claim 31 further includes a code segment that receives at least one of an initial capital cost, a maintenance cost, labor cost, cost of consumables and internal power consumption cost information from the centralized database.

33. The computer program as recited in Claim 28 further includes a code segment that generates at least one of an Operations Cost Summary Report, a General Information Report, a Capital Costs Summary Report, an Annual Maintenance Costs Report, a Major Maintenance Summary Report, a Fees and Services Report, a Direct Material Report, an Equipment, Rental & Spares Report, a Fuels Report, a Coal Offset Report, an O & M Labor, Purchased Power & Fuel Calculations Report, a Steam Correction Factor Report, a Turbine Generator Report, a Dispatch Information Report, an Annual Summary of Key Information to Analyze

Potential Investment Report, a CO₂ Tax Calculations Report, and an Operational Cost Summary Report.

34. The computer program as recited in Claim 28 further includes a code segment that provides an option to the administrator which includes at least one of changing number of units option, updating users option, changing administrator option, and updating product table option.

35. A computer program embodied on a computer readable medium for managing evaluations of power generating facilities, comprising:

a code segment that receives facility information from a user;

a code segment that enters the facility information into a centralized database;

a code segment that stores the facility information into the centralized database and cross-reference the facility information against a unique identifier; and

a code segment that analyzes the facility based on pre-selected criteria stored in a server system and provides recommendations to the user in response to an inquiry.

36. The computer program as recited in Claim 35 wherein the network is a wide area network operable using a protocol including at least one of TCP/IP and IPX.

37. The computer program as recited in Claim 35 wherein the data is received from the user via a graphical user interface.

38. The computer program as recited in Claim 35 further includes a code segment that prioritizes facilities based on pre-stored assumptions in the database.

39. The computer program as recited in Claim 35 includes a code segment that displays information through an HTML document downloaded by the server system.

40. The computer program as recited in Claim 35 further comprising:

a code segment that accesses the centralized database;

a code segment that searches the database regarding the specific inquiry;

a code segment that retrieves information from the database; and

a code segment that causes the retrieved information to be displayed on the client system.

41. The computer program as recited in Claim 35 wherein the client system and the server system are connected via a network and wherein the network is one of a wide area network, a local area network, an intranet and the Internet.

42. The computer program as recited in Claim 35, and further comprising a code segment that monitors the security of the system by restricting access to unauthorized individuals.

43. Apparatus comprising:

means for prompting a user to enter power generating facility information; and

means for analyzing the power generating facility based on pre-defined criteria to select a facility out of various power generating facilities.

44. Apparatus according to Claim 43 wherein said means for prompting a user to enter power generating facility information further comprises means for storing information.

45. Apparatus according to Claim 43 wherein said means for analyzing the power generating facility further comprises means for:

tracking facility information on a real time basis;

storing facility information on a real time basis; and

updating the centralized database with revised facility information on a real time basis to provide up-to-date information instantaneously to the user upon a request.

46. Apparatus according to Claim 43 wherein said means for analyzing the power generating facility further comprises means for analyzing based on a pre-defined model and assumptions developed from the past experience and stored in the database.

47. Apparatus according to Claim 43 further comprising means to generate a report of the facility analysis.

48. Apparatus according to Claim 43 further comprising means for reviewing strategic model and financial assumptions.

49. Apparatus according to Claim 43 wherein said means for analyzing the facility further comprises means for determining impact on return on investment.

50. Apparatus according to Claim 43 wherein said means for analyzing the facility further comprises means for establishing various trigger levels that identify risk of the investment as at least one of a medium risk, a low risk and a high risk.

51. Apparatus according to Claim 50 wherein said means for analyzing the facility further comprises means for revalidating trigger levels.

52. A web-based system for selecting a power generating facility utilizing a strategic decision model, said system comprising:

a client system comprising a browser;

a data storage device for storing information;

a server system configured to be coupled to said client system and said database, said server system further configured to:

receive facility information;

allocate operating expenses based on prior experience in evaluating the facility;

calculate facility cost and associated return on investment; and

provide various management reports that provide operational details and recommendation to management for a selected facility out of various power generating facilities based on pre-defined assumptions.

53. A system according to Claim 19 wherein said server system further configured to:

receive at least one of at least one of a unit gross capacity, number of hours that the unit has operated since the Commercial Operation (CO) date, the number of hours that the unit will be available for operation, and the anticipated load that the unit will be dispatched;

receive at least one of a Unit Gross Output, a House Load, Existing Operational Hours, a Percentage of Available Hours Dispatched, a Dispatched Load, Fuels Information, a Cycle, a Feed Water Temperature, and a Stack Temperature;

receive Facility Equipment Information by selecting at least one of a Flyash Control Equipment, a SO₂ Control Equipment, a Mercury Control Equipment, and a NO_x Control Equipment to reflect the actual condition of the facility that is being evaluated; and

receive at least one of an initial capital cost, a maintenance cost, a labor cost, cost of consumables and internal power consumption cost information from the centralized database.

54. A system according to Claim 52 wherein said server system further configured to store facility information.

55. A system according to Claim 52 wherein said server system further configured to:

track facility information on a real time basis;

store facility information on a real time basis; and

update the centralized database with revised facility information on a real time basis to provide up-to date information instantaneously to the user upon a request.

56. A system according to Claim 55 wherein said server system further configured to update the database by at least one of adding new information, deleting the current information and editing the current information stored in the database.

57. A system according to Claim 55 wherein said server system further configured to update the database instantaneously by accepting the facility information entered on-line.

58. A system according to Claim 55 wherein said server system further configured to update the database instantaneously by accepting the facility information at least through one of a voice activation command and a device connected to the client system.

59. A system according to Claim 52 wherein said server system further configured to:

download requested information from a server system; and

display requested information on a client system in response to the inquiry.

60. A system according to Claim 52 wherein said server system further configured to print requested information in a pre-determined format.

61. A system according to Claim 60 wherein said server system further configured to display an HTML document downloaded by the server system.

62. A system according to Claim 60 wherein said server system further configured to print at least one of an Operations Cost Summary Report, a General Information Report, a Capital Costs Summary Report, an Annual Maintenance Costs Report, a Major Maintenance Summary Report, a Fees and Services Report, a Direct Material Report, an Equipment, Rental & Spares Report, a Fuels Report, a Coal Offset Report, an O & M Labor, a Purchased Power & Fuel Calculations Report, a Steam Correction Factor Report, a Turbine Generator Report, a Dispatch Information Report, an Annual Summary of Key Information to Analyze Potential Investment Report, a CO2 Tax Calculations Report, and an Operational Cost Summary Report.

63. A system according to Claim 52 wherein said server system further configured to:

determine at least one of a desired facility out of all available power generating facilities; and

print relevant information regarding the desired facility.

64. The system according to Claim 52 wherein the client system and the server system are connected via a network and wherein the network is one of a wide area network, a local area network, an intranet and the Internet.

65. A system according to Claim 52 wherein said client system is further configured with:

a displaying component; and

a sending component to send an inquiry to the server system so that the server system can process and download the requested information to the client system.

66. A system according to Claim 65 wherein the sending component functions in response to a click of a mouse button.

67. A system according to Claim 65 wherein the sending component functions in response to a voice command.

68. The client system of Claim 52 wherein said system is further configured to be protected from access by unauthorized individuals.

69. A system according to Claim 52 wherein said server system is further configured with a displaying component for displaying various user interfaces to the user, a receiving component for receiving an inquiry to provide information from one of a plurality of users, a collection component for collecting information from users into the centralized database, a tracking component for tracking information on an on-going basis, and an accessing component for accessing the centralized database and causing the retrieved information to be displayed on the client system.

70. A system according to Claim 69 wherein said server system further configured with a processing component for searching and processing received inquiries against the data storage device containing a variety of information collected by the collection component.

71. A system according to Claim 70 wherein said server system further configured with a retrieving component to retrieve information from the data storage device.

72. A system according to Claim 71 wherein said server system further configured with an information fulfillment component that downloads the requested information after retrieving from the data storage device to the plurality of users in the order in which the requests were received by the receiving component.

73. A system according to Claim 52 wherein said server system further configured to receive input directly from a plurality of individuals and update the centralized database.

74. A database comprising:

data corresponding to Boiler Data;

data corresponding to Feed Water Data;

data corresponding to Balance of Plant Data;

data corresponding to Turbine Data;

data corresponding to APC Equipment Data; and

cross referencing the Boiler Data, Feed Water Data, Balance of Plant Data, Turbine Data, and APC Equipment Data against unique identifiers for easy retrieval and storage.

75. A database according to Claim 74 further comprising data corresponding to key assumptions and mathematical algorithms.

76. A database according to Claim 74 further comprising data corresponding to users' preferences.

77. A database according to Claim 74 further secured from access by unauthorized individuals.

78. A computer to facilitate an online strategic decision making process to select a power generating facility out of all acquisition candidates, said computer coupled to a centralized database and programmed to:

receive a power generating facility information into a centralized database;

store the power generating facility information into various sub-sections of the centralized database to create a facility profile and cross-reference the facility profile against a unique identifier for easy retrieval and update;

evaluate the facility based on pre-determined values stored in the centralized database; and

generate reports that help management to identify a facility that reduces risk and maximize profits.

79. The computer according to Claim 78 further programmed to provide a notification to users via electronic mail regarding final decision.

80. The computer according to Claim 78 further programmed to provide a detail history of the facility, current operating expenses, and planned projections including return on investment.

81. The computer according to Claim 78 further programmed to search various facilities from the centralized database based on pre-determined criteria.

82. The computer according to Claim 78 further programmed to add facilities and other related information to the centralized database.

83. The computer according to Claim 78 further programmed to provide flexibility to an administrator to make changes to the centralized database by at least one of adding, modifying and deleting information.